THE CORAL REEF ALLIANCE

Effective Coral Reef Marine Protected Areas: A Solution for Survival

What are MPAs ?

Coral Reef Marine Protected Areas (MPAs) are areas of coastal land, water, and reef that are specifically designated to protect coral reef resources. These MPAs sustain coral reef health by preserving biological diversity, such as, providing sites for restocking fish and shellfish. MPAs can improve water quality by including adjacent watersheds and controlling impacts of sedimentation and pollution. Healthy coral reef systems can be marketed to promote tourism and can generate a more prolific fishery for artisanal fishers.

Who will benefit from MPA's and why?

Once established and properly managed, many people benefit from coral Reef MPA's:

Artisanal Fishers: Studies show that catches increase significantly in areas near marine reserves. MPAs that have no-take zones have been shown to have higher fish biomass, higher fish density, larger carnivorous fish and invertebrates, increased fish larval supplies, and higher biodiversity than fished areas.

Local Communities: MPAs can improve the quality of life by protecting cultural heritage, increasing local peoples income and providing food. The tourism and dive industry can also employ locals, who otherwise might resort to destructive fishing, an activity that yields a much smaller economic gain than tourism.

Policy Makers: MPAs can preserve natural resources and thus sustain the value of a country's assets. Coral reefs are among the most valuable ecosystems because of their biological diversity, economic value, and the environmental services that they provide for millions of people. One research group estimates that the world's reefs generate US $375 billion each year from living resources, fish and souvenir manufacturing, mariculture, coral sand mining, bioprospecting for new products, tourism, and coastal protection from erosion, waves and storm damage.

Scientists: MPAs allow researchers to examine short and long-term trends of marine resource management. This information could assist local communities in improving how they manage reef fisheries and find new biomedical applications.

Tourism Sector: Reef-based tourism is a non-extractive industry that attracts millions of divers and snorkelers each year. Hawaii claims tourism revenue brings in $8.6 million per square mile of coral reef. In the Caribbean, travel and tourism is expected to generate US$34.3 billion in 2002, increasing to US$74.1 billion by 2012.

Tourists: MPAs with high aesthetic appeal will attract more tourists. Tourists (including SCUBA divers) prefer to visit an undamaged reef and will pay more for the privilege of visiting it. Furthermore, divers are willing to pay more for the best dive spots and will do so through user-fees. This can generate much-needed revenue to keep a MPA functioning.

Policies that support MPA's:

Convention on Biological Diversity: It's 8th Article commits all government parties to establish systems of protected areas to conserve *in situ* biodiversity. The Article also reaches beyond individual sites to promote practices to ensure that activities in areas adjacent to potential sites do not harm those protected reserves.

The Convention on Wetlands of International Importance (Ramsar Convention): This convention originally focused upon waterfowl protection and has designated thousands of sites worldwide, including marine areas. Member states are required to identify and conserve sites considered of international importance such as the Isla del Coco in Costa Rica which has extensive coral reefs and is an area rich in native species where up to 24,000 fish per square km can be observed.

UNESCO's Man and the Biosphere (MAB) Programme: This programme encourages management of areas of significant biodiversity to achieve sustainable utilization of natural resources, research, monitoring, and biodiversity conservation. It focuses upon developing models of sustainable human and environment interaction.

World Heritage Convention: To identify and protect the world's outstanding cultural and natural heritage such as Komodo National Park in Indonesia, the Great Barrier Reef, Australia and Aldabra Atoll, Sechelles.

World Parks Congress: The Vth World Congress on Protected Areas which will take place in Durban, South Africa in September of 2003, is designed to promote, and discuss the benefits of MPAs.

How to support MPAs:

* Determine whether traditional principles or resource management measures exist and, if not, whether their resurrection or implementation could enhance coastal resource management.

* Engage in participatory action research with local communities to extract anecdotal and traditional knowledge related to reef conservation.

* Involve local stakeholders in policy that will create local support for coastal management policies.

* Involve local stakeholders and consider their aspirations for community development and consider the socio-economic. When local communities are asked to conserve resources through strict regulation there must be suitable and viable alternatives for local communities. When local communities are fully incorporated in the decision making process and have a sense of ownership of the park there is a greater chance of success for the MPA. In addition if stakeholders can see benefits financially through an increased and continual availability of marine resources, protection of cultural heritage, and financially through tourism there is an even greater likelihood for success.

* Inventory coastal environments, resources, and programs to support the continuous supply of data on the state of the coastal environment.

* Determine short-term and long-term goals to create coastal zone management strategies that serve to protect coral reef and related ecosystems.

* Create and enforce a strong legal and institutional framework, including economic incentives, to reinforce desired behaviors and outcomes.

* Develop a strong coastal management constituency and partnerships at the local, regional and national levels.

* Establish MPAs, including no-take reserves, to protect, preserve and man age in a sustainable way the species and ecosystems of special value (this includes threatened species and habitats).

* Perform Environmental Impact Assessments (EIAs) on all development projects in the terrestrial and aquatic sections of the coastal zone.

* Assess and monitor pollutants in the water column and make a plan for pollution control.

The Coral Reef Alliance (CORAL) is a nonprofit, member-supported organization that works to promote coral reef conservation around the world. With the support of thousands of divers, snorkelers, and other concerned citizens, we raise public awareness about the problems facing coral reefs and provide support for local coral reef conservation efforts. For more information about CORAL, or to become a member, please contact us at: The Coral Reef Alliance, 2014 Shattuck Avenue, Berkeley, CA 94704, USA, Tel: 510-848-0110, Fax: 510-848-3720, e-mail info@coral.org, web site: http://www.coral.org